REMARKS/ARGUMENTS

Claims 1-8, 10-24, 29 and 31-33 are pending in the application. Claims 1-8, 10-24, 29 and 31-33 are rejected. Claims 9, 25-28 and 30 were previously canceled. In view of the foregoing amendments and the following remarks, Applicants respectfully request allowance of the application.

CLAIMS 1-8, 10-24, 29, and 31-33 DEFINE OVER THE PRIOR ART

Claims 1, 5, 10-13, 18-22, 29, and 32-33 are rejected under 35 U.S.C. § 103(a) as being unpatentable over "Temporally Adaptive Interpolation Exploiting Temporal Masking in Visual Perception" Lee et al. ("Lee"), in view of US Patent Application Publication 2003/0142748 A1 Tourapis et al. ("Tourapis"). The remaining claims stand rejected as obvious over Lee, Tourapis and various other supplemental references. Applicants respectfully request withdrawal of the outstanding rejections because the cited art, even if considered in combination, do not teach or suggest all elements of the claims.

Representative independent claim 10 recites:

> A video coding method, comprising, from a sequence of video data:
> **determining a motion speed between a first picture and a reference picture;**
> for each picture following the first picture, until a termination condition is met:
> > **determining a motion speed for the respective picture,**
> > **comparing the motion speed of a respective picture with the motion speed of the first picture, and**
> > **coding the respective picture as a B picture if the motion speeds are consistent with each other;** and
> > when the termination is met, coding a picture as a P picture.

The combination of Lee and Tourapis does not teach or suggest the coding method recited in claim 10. In particular, the combination of Lee and Tourapis does not teach or suggest a coding method that codes pictures as B pictures when the motion speeds between pictures are determined to be consistent in the manner specified in claim 10. The Examiner concedes that the motion compensation error (MCE) of Lee is not the same as determining

consistent motion speed, and relies on Tourapis to supply this deficiency. (*See* page 4 of Office Action dated Feb. 4, 2008).

Claim 10 refers to a coding procedure in which, a motion speed is determined between a first picture and a reference picture (say, pictures n to n+1 in FIG. 3). Thereafter, for subsequent pictures (n+2, n+3, etc.), the procedure determines a motion speed for the respective subsequent picture and comparing this motion speed with the motion speed of the first picture. The method codes the respective subsequent picture (ex., n+2) as a B picture if the motion speeds of the subsequent pictures are consistent with the motion speed of the first frame.

FIG. 3
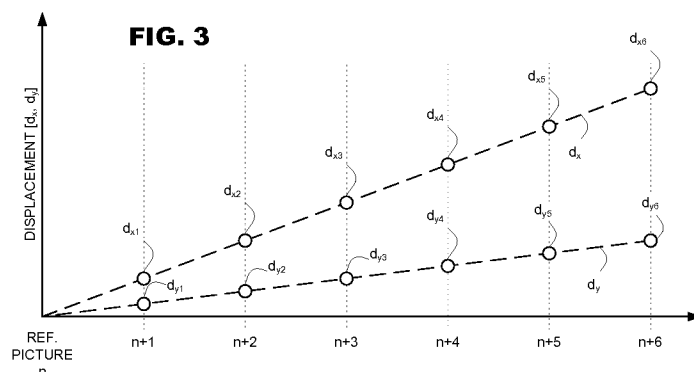
The cited art does not teach or suggest this subject matter. Lee has almost no relevance to this process. Although he refers to modification of GOPs, Lee's processes are completely different. The portion at p. 519, col. 1, referring to motion compensation error (MCE) merely discusses an estimate of complexity of coding. Lee states:

> Since coding difficulty is determined by the error between fm and $f^\wedge_m$, which is a prediction from f_n, this motion compensation error can provide a difficulty measure for the coding of the error image between fm and $f^\wedge_m$.

In this discussion, Lee refers to only a single pair of frames (frame n and frame m). As discussed above, the method of claim 10 refers to three or more frames – the reference frame, the first frame and subsequent frames. Lee, therefore, is not terribly relevant to the subject matter of claim 10.

Tourapis also has minimal relevance. The Office Action cites ¶¶ 0067-0668, which refer to a coding process (called "Inter Macroblock Type") involving motion projection, which Tourapis

characterizes as being similar to direct mode prediction for B frames. See, Tourapis, ¶0068. Tourapis, however, clearly indicates that his coding processes are based on an **assumption** that speed is constant:

> Similar to the Direct Mode in B frames, by again **assuming that speed is constant**, motion for a macroblock can be directly derived from the correlated macroblock of the reference frame.

Tourapis has no disclosure to determine how to determine when/how his assumption holds true for an input sequence of video data. Moreover, his coding method is proposed for individual macroblocks, not pictures as recited in claim 10. Finally, Tourapis is not concerned with determining *which* pictures should be coded as B frames, but rather *how* to encode them once their assignment has been decided. Accordingly, claim 10 is allowable over the cited art.

Because the combination of Lee and Tourapis does not teach or suggest the above limitations, the combination does not render representative claim 10 obvious under § 103. Each of the independent claims in the present application recite similar limitations, and therefore Applicants respectfully request withdrawal of the rejection as to all pending claims.

Claims 11-17 depend from independent claim 10 and are allowable for at least the reasons applicable to claim 10, as well as due to the features recited therein.

Independent claim 1 recites limitations similar to those of claim 10. Accordingly, claim 1 is allowable over the combination of Lee and Tourapis for at least those reasons mentioned above with respect to claim 10. Claims 2-8 depend from independent claim 1 and are allowable for at least the reasons applicable to claim 1, as well as due to the features recited therein.

Independent claim 18 recites limitations similar to those of claim 10. Accordingly, claim 18 is allowable over the combination of Lee and Tourapis for at least those reasons mentioned above with respect to claim 10. Claims 19-24 depend from independent claim 18 and are allowable for at least the reasons applicable to claim 18, as well as due to the features recited therein.

Independent claim 29 recites limitations similar to those of claim 10. Accordingly, claim 29 is allowable over the combination of Lee and Tourapis for at least those reasons mentioned above with respect to claim 10. Claims 31-32 depend from independent claim 29 and are allowable for at least the reasons applicable to claim 29, as well as due to the features recited therein.

Independent claim 33 recites limitations similar to those of claim 10. Accordingly, claim 33 is allowable over the combination of Lee and Tourapis for at least those reasons mentioned above with respect to claim 10.

CONCLUSION

In view of the above amendments and arguments, it is believed that the above-identified application is in condition for allowance, and notice to that effect is respectfully requested. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at (408) 975-7500.

The Commissioner is authorized to charge any fees or credit any overpayments which may be incurred in connection with this paper under 37 C.F.R. §§ 1.16 or 1.17 to Deposit Account No. **11-0600**.

Respectfully submitted,

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Date: <u>May 5, 2008</u>

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